

Dkt No. 2002-0982/N1085-131
Application No. 10/813,799

Amendments to the Specification:

Please replace paragraph [0016] starting on page 5 with the following amended paragraph:

An exemplary plasma etching apparatus for practicing the method of the present invention is shown in FIG. 1. The apparatus comprises a reaction chamber 10, which may be made from a metal, and an optical emission spectrometer 20. The reaction chamber 10 may include a coiled transformer coupled plasma (TCP) electrode 11, powered by a high frequency RF power source 12a. The TCP electrode 11 may be disposed immediately above the reaction chamber 10 for generating an RF power inside the reaction chamber 10 during an etching operation when the TCP electrode 11 is powered by the high frequency RF power source 12a. One or more gas inlet apertures 13 allow process gases to be pumped into the reaction chamber 10 and one or more gas outlet apertures (not shown) allow vacuum evacuation of chamber. A wafer stage 14 is disposed within the chamber 10. High frequency power is applied to a bias electrode 14a associated with the wafer stage 14 from a high-frequency power source 12b to generate a bias magnetic field inside the chamber 10. The reaction chamber 10 may be controlled by a computer 30 and a computer user interface 31. The computer 30 is conventionally adapted to implement various etching recipes in the reaction chamber 10 and process optical information received from the optical emission spectrometer 20 via the user interface 31. The optical emission spectrometer 20 is conventionally adapted to allow filtering of all wavelengths of radiation except the wavelength of light emitted by the particles 16, the wavelength filtering process being controlled by the computer 30 through the user interface 31. The reaction chamber 10 is configured to allow the optical emission spectrometer 20 to observe the interior 15 of the reaction chamber 10 to allow in situ monitoring of the light emitted by the RF excited peeling particles 16 in the reaction chamber 10. An example of such an apparatus for practicing the method of the present invention is sold by Lam Research Corporation under model number 2300.